Use Attainability Analysis

for

WBID 0377 Brushy Creek

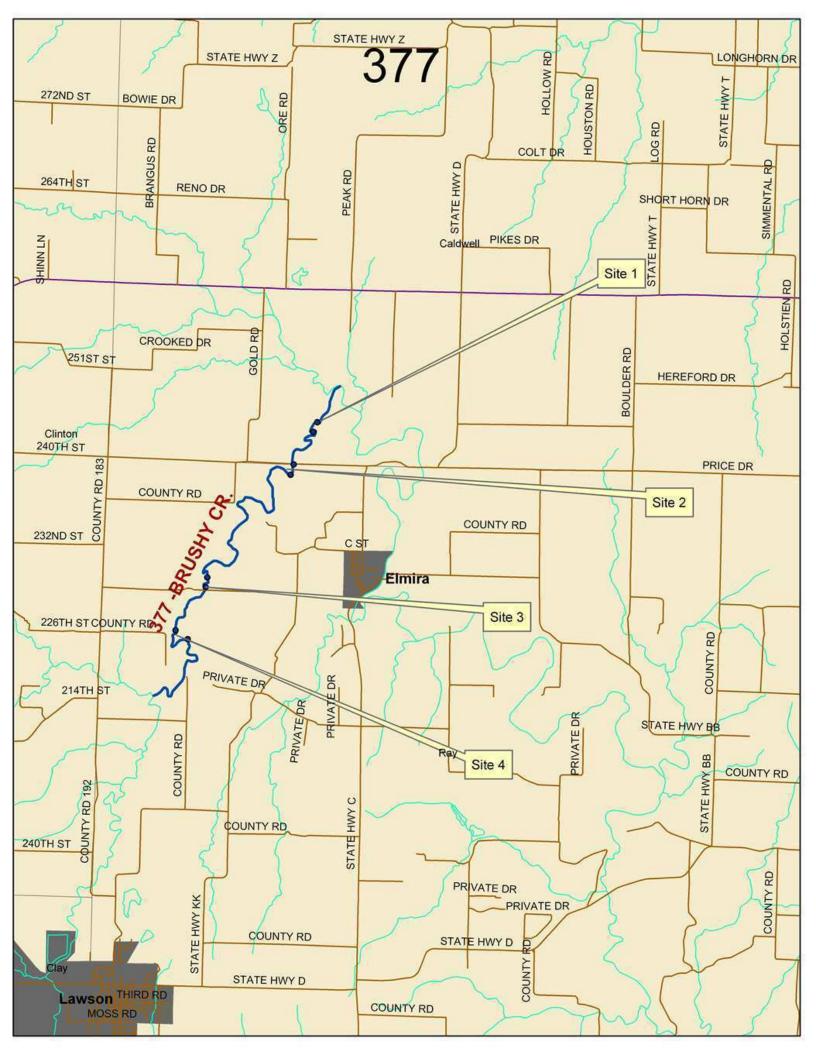
Submitted by SES Inc.

to Missouri Department of Natural Resources Water Protection Program

Date received: November 14, 2007

Data Sheet A - Water Body Identification

I. Water Body Information (For water body bei	ng surveyed)
Water Body Name (from USGS 7.5' quad):	brushy creek
Missouri Water Body Identification (WBID) Number:	377
8 digit HUC code: 10300101	County: clay
Upstream Legal Description (from Table H):	T54N R29W SEC 18
Downstream Legal Description (from Table H):	T55N R29W SEC 33
Number of sites evaluated: 4	
List all site numbers, listed consequently upstream to d	lownstream:
4, 3, 2, 1	
Site Locations Map(s): Attach a map of the entire sec	ement with accomment sites alongly labeled
,	griefit with assessment sites clearly labeled.
Mark any other items that may be of interest.	
II. Facilita la farma etta a /list all a amazitta d'alia de amazit	41
II. Facility Information (list all permitted discharges to	the water body segment)
Facility Name(s) and Permit Number(s):	
Lawson Wastewater lagoon	
MO0091031	
III. UAA Surveyor (please print legibly)	
Name of Surveyor: Gilisa Gould	Telephone Number: 913-307-0054
Organization/Employer: SES, Inc.	
Please verify that you have completed all sections,	checked all applicable boxes, and that the form is
complete.	
Signed:Gilisa Gould	Date:11.09.07



Data Sheet B-Site Characterization

Date & Time:	7 10:00am		Site Location Description (e.g. road crossing):				
Personnel:	L. Brow	n & G. Gould			Price dr.		
Current Weat	ner Cond	ditions: clear		Facility Nar	ne:	Lawson Wast	ewater Lagoon
Weather cond	litions fo	r the past 10 days:0	.96 inches	Permit Nun	nber:	MO0091031	
Drought cond	itions?: N	No drought ☑ ; Pha	se I □ ; Phase	Ⅱ 🛭 ; Phas	e III □ ; Pł	nase IV □ ; Ur	nknown 🗆
Site Location	1:						
		(Universal Transver	se Mercator P	rojection, In	Meters		
Site 01	Easting	(UTM X):	Northing (UTI	M Y):		Horizontal Ac	curacy: Meters
		0399895		4376429		30	ft
Site 11	Easting (UTM X): Northing			И Y):		Horizontal Ac	curacy: Meters
		0399972		4376605		20	ft
		0000012	<u> </u>	407 0000		20	10
Photos:			1	1		T	
Photo ID#	Photo Purpose		Photo ID#:	Photo ID#: Photo Purpose		Photo ID#:	Photo Purpose
70		downstream, T1	71	upstream,	Τ1	72	downstream, T11
Photo ID#	F	Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Purpose
73	upstrea	m, T11					
Photo ID#	F	hoto Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Purpose
Uses Observ	ed:						
☐ Swimming	١	☐ Skin diving	□ SCUBA d	iving	☐ Tubin	g	☐ Water Skiing
☐ Wind surfi	ng	☐ Kayaking	☐ Boating		□ Wadir	ng	□ Rafting
☐ Hunting		☐ Trapping	☐ Fishing		☑ None of the above		☐ Other:
Describe:					I.		

WBID#	377
Site #	1

Data Sheet B- Site Characterization (Continued)

Surrounding Conditi	ons:					
☐ City/County parks	☐ playgrounds	☐ MDC con	servation lands	☐ Urban areas	☐ Rural Re	esidential
☐ Campgrounds	☐ State parks	□ National I	Forests	□ Nature trails	☐ Stairs/wa	alkways
□ Boating accesses	☑ Fence	□ No tressp	ass sign	☐ Steep Slopes	☐ Other:	
Comments:						
none						
Evidence of Human I	lleo.					
□ Roads	☐ Foot path/prints	☑ Dock/platf	orm	☐ Camping Sites	s ☐ Rope sw	inge
☐ RV/ATV Tracks	☐ Fire pit/ring	☐ NPDES D		☐ Fishing Tackle		k watering
comments/other:		L 111 D L D	loonargo	E i lorning rackie	Z LIVOGROOM	t watering
	platform in trees pos	ssibly for hunti	ing			
		·				
Substrate:						
Substrate: % Cobble	% Gravel	% Sand	% Silt	% Mud/Clav	% Bedrock	
Substrate: % Cobble	% Gravel	% Sand 70	% Silt	% Mud/Clay 10	% Bedrock 10	
	% Gravel			•		
	% Gravel			•		
% Cobble	% Gravel			•		
% Cobble	% Gravel			•		
% Cobble Aquatic Vegatation:	% Gravel			•		
% Cobble Aquatic Vegatation:	% Gravel			•		
% Cobble Aquatic Vegatation: none				•		
% Cobble Aquatic Vegatation: none Water Characteristic	s:	70		10		□ Other:
% Cobble Aquatic Vegatation: none	s:		10	10 inical	10	☐ Other:
% Cobble Aquatic Vegatation: none Water Characteristic Odor:	s: □ Sewage	70	10 ☐ Chem	10 inical	10 ☑ None	

WBID#_	377
Site #	1

	Data Sheet	B - Site Charac	terization (conti	nuea)	
Additional Stream N	lorphology: (Record isolated	d pools or other feat	ures identified during	the survey that may suppor	t recreational uses)
Channel Feature	Distance from	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
	access location (m)				
Comments: (Please re	cord any additional comments h	nere.)			
none					
Please verify that yo	ou have completed all se	ections, checke	d all applicable	boxes, and that the f	orm is
complete.	•				
			.		
Surveyor's Signature:	Gilisa Gould		_Date of Survey:	10.15.07	
Organization:	SES, Inc.		Position:	Field Team Leader	
3			_		

Field Data Sheets for Recreational Use Stream Surveys Data Sheet C - Field Survey Results

																		Disso	lved Ox	vygen		
	Waterbo	ody ID:	377			Site #:	1									Date:	10.15.07	7		Time:	10:00am	
	Estimate	ed Chann	el Incisi	on:	2.0	(m) (hei	ght betw	een low	bank wid	lth and w	rater)					•		Oxygen:		•	(mg/L)	
	GPS Lo	cation - I	Easting (UTM X)	, Northin	ng (UTM	Y), Hori	zontal A	ccuracy	Estimate	(EPE / I	PDOP / F	OM)			Di	ssorvea	Oxygen.		7.1	(IIIg/L)	
	01	UTM X	:	0399895	5	1	UTM Y:		4376429)	*	+/-		(meters)		Di	ssolved	Oxygen:			(% sat)	
	11	UTM X		0399972	2	. 1	UTM Y:		4376605	5		+/-	6	(meters)								
	A	Ctus ous '	W: Jak.		5			(ma at ama)	Τ.		C C	۱	150		(at aa)		Specifi	ic Cond:			(μS/cm)	
		Stream rmne Le			3			(meters)		_	-	Segment: n width)	150		(meters)	Wa	ter Temi	perature:		13.8	(°C)	
	(10 000								(-	011 41 014	ge 511 eur					,,,		,		10.0	(0)	
	Fiel	d Staff:	Larissa	Brown	and	Gilisa G	ould															
										Trar	isect Ci	ross-Sec	tion									
	0	1	0	2	0	13	0	4	0	5	0	6	0	7	0	8	0	9	1	0	1	1
Station	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Leit Bank	U	U	U	U	U	U	U	U	U	_	U	0	U	U	U	U	U	0	U	U	U	0
1	0.4	0.10	0.7	0.03	0.5	0.05	0.6	0.05	0.6	0.25	0.6	0.05	0.2	0.05	0.6	0.01	0.4	0.05	0.4	0.05	0.5	0.01
2	0.8	0.30	1.4	0.80	1.0	0.15	1.2	0.20	1.2	0.35	1.2	0.15	0.4	0.15	1.2	0.10	0.8	0.25	0.8	0.05	1.0	0.15
3	1.2	0.50	2.1	1.00	1.5	0.35	1.8	0.15	1.8	0.40	1.8	0.25	0.6	0.05	1.8	0.10	1.2	0.30	1.2	0.20	1.5	0.15
4	1.6	0.50	2.8	0.95	2.0		2.4	0.01	2.4	0.25	2.4	0.30	0.8	0.00	2.4	0.15	1.6	0.20	1.6	0.30	2.0	0.20
5	2.0	0.40	3.5	0.75	2.5	0.55	3.0	0.05	3.0	0.25	3.0	0.45	1.0	0.00	3.0	0.15	2.0	0.15	2.0	0.20	2.5	0.15
6	2.4	0.30	4.2	0.50	3.0		3.6	0.15	3.6		3.6		1.2	0.01	3.6	0.20	2.4		2.4	0.10	3.0	0.10
7	2.8	0.25	4.9	0.50			4.2	0.20	4.2	0.40	4.2	0.45	1.4	0.05	4.2	0.20			2.8	0.10	3.5	0.05
8	3.2	0.20	5.6				4.8	0.40	4.8		4.8		1.6	0.05	4.8	0.45	3.2		3.2	0.10	4.0	0.05
9	3.6		6.3				5.4	0.30	5.4		5.4		1.8	0.05	5.4	0.30			3.6		4.5	0.01
Right Bank	4.0	0.00	7.0	0.00	5.0	0.00	6.0	0.00	6.0	0.00	6.0	0.00	2.0	0.00	6.0	0.00	4.0	0.00	4.0	0.00	5.0	0.00
Feature Type	1.0	0.00	7.0	0.00	2.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	2.0	0.00	0.0	0.00	1.0	0.00	1.0	0.00	2.0	0.00
(riffle, run, or pool	рс	ool	рс	ool	рс	ool	po	ol	po	ool	рс	ool	rif	fle	po	ol	рс	ool	po	ool	po	ol

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed:	Gilisa Gould	Date:	11.09.07	

WBID#	377
Site #	2

Data Sheet B-Site Characterization

Date & Time:	7 11:05am		Site Location Description (e.g. road crossing):						
Personnel:	L. Brow	n & G. Gould		upstream o	upstream of prince rd crossing				
Current Weatl	ner Cond	ditions: clear		Facility Nar	me:	Lawson Was	tewater Lagoon		
Weather cond	itions fo	r the past 10 days:3	.09 inches	Permit Nun	nber:	MO0091031			
Drought condi	tions?: N	No drought ☑ ; Pha	se I □ ; Phase	ll □ ; Phas	e III □ ; Pł	nase IV □ ; Ur	nknown 🗆		
Site Location	1:								
		(Universal Transver	se Mercator P	rojection, In	Meters				
Site 01	Easting (UTM X): Northing (UTM			M Y):		Horizontal Ad	ccuracy: Meters		
		0399482		4375645		22	ft		
Site 11	Easting	(UTM X):	Northing (UTI	M Y):		Horizontal Ac	ccuracy: Meters		
		0399534		4375839		24	ft		
		0000001	ı	1070000					
Photos:	1		1	T		T	T		
Photo ID#	Photo Purpose		Photo ID#:	Photo F	Purpose	Photo ID#:	Photo Purpose		
74		downstream, T1	75	upstream,	T1	76	downstream, T11, fence		
Photo ID#	F	Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Purpose		
77	upstrea	ım, T11	78	underbridge	e art	79	trash under bridge		
Photo ID#	F	Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Purpose		
Uses Observ	ed:								
☐ Swimming		☐ Skin diving	☐ SCUBA d	iving	☐ Tubin	g	☐ Water Skiing		
☐ Wind surfi	ng	☐ Kayaking	□ Boating		□ Wadir	ng	□ Rafting		
☐ Hunting		☐ Trapping	☐ Fishing		☑ None	of the above	☐ Other:		
Describe:					•				

WBID#	377
Site #	2

Data Sheet B- Site Characterization (Continued)

Surrounding Conditi	ons:					
☐ City/County parks	☐ playgrounds	☐ MDC cons	servation lands	☐ Urban areas	☐ Rural Re	esidential
☐ Campgrounds	☐ State parks	□ National F	orests	☐ Nature trails	☐ Stairs/wa	alkways
☐ Boating accesses	☑ Fence	☐ No tresspa	ass sign	☐ Steep Slopes	□ Other:	
Comments:						
crosses riff	fle					
Evidence of Human I	Use:					
□ Roads	☐ Foot path/prints	☐ Dock/platfo	orm	☐ Camping Site	es □ Rope sw	rings
☐ RV/ATV Tracks	☐ Fire pit/ring	☐ NPDES Dis	scharge	☐ Fishing Tackl	e ☐ Livestoc	k watering
comments/other:						
	none					
Substrate:						
% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock	
	10	80			10	
Aquatic Vegatation:						
none						
Water Characteristic	s:					
Water Characteristic	s: ☐ Sewage	□ Musky	☐ Chem	nical	☑ None	☐ Other:
		□ Musky □Green	□ Chen		☑ None ☑ Milky	☐ Other:
Odor:	☐ Sewage		☐ Gray	sediments		

WBID#	377
Site #	2

Data Sheet B - Site Characterization (continued)

Channel Feature	Distance from	Width (m)	Length (m)	Median Depth (m)	Max Depth (m
	access location (m)				
mments: (Please re	cord any additional comments h	ere.)			
ne					
ase verify that vo	u have completed all se	ections, checke	d all applicable	boxes, and that the f	orm is
mplete.	•	•	• •	•	
rveyor's Signature:	Gilisa Gould		Date of Survev:	10.15.07	
,			_		
Organization:	SES, Inc.		Б :::	Field Team Leader	

Field Data Sheets for Recreational Use Stream Surveys Data Sheet C - Field Survey Results

																		Disso	lved Ox	ygen		
	Waterbo	ody ID:	377			Site #:	2									Date:	10.15.07	7		Time:	11:05	
	Estimate	ed Chann	nel Incisi	on:	2.0	(m) (hei	ght betw	een low	bank wid	lth and w	rater)					•		Oxygen:		•	(mg/L)	
	01	cation - I UTM X	:	0399482	2	ι	UTM Y:		4375645	5		+/-	6.7	(meters)				Oxygen:			(% sat)	
	11	UTM X	:	0399534	1	. '	UTM Y:		4375839)		+/-	7.3	(meters)			Specifi	ic Cond:			(μS/cm)	
	Average Stream Width: 6 (meters) Length of Survey Segment: 150 (meters) (20x average stream width)								(meters)	Wa		perature:										
	Fiel	ld Staff:	Larissa	Brown	and	Gilisa G	ould															
										Trai	isect Ci	ross-Sec	ction									
	0)1	0)2	0	13	0	4	0	5	0	6	0	7	0	8	0	9	1	0	11	1
Station	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.5	0.10	0.5	0.05	0.7	0.01	0.7	0.10	1.0	0.05	0.4	0.15	0.8	0.05	0.4	0.01	0.6	0.05	0.8	0.05	0.6	0.01
2	1.0	0.35	1.0	0.10	1.4	0.10	1.4	0.10	2.0	0.10	0.8	0.10	1.6	0.05	0.8	0.05	1.2	0.10	1.6	0.15	1.2	0.01
3	1.5	0.35	1.5	0.10	2.1	0.01	2.1	0.10	3.0	0.05	1.2	0.15	2.4	0.05	1.2	0.05	1.8	0.15	2.4	0.10	1.8	0.05
4	2.0	0.30	2.0	0.10	2.8	0.00	2.8	0.10	4.0	0.15	1.6	0.15	3.2	0.05	1.6	0.05	2.4	0.10	3.2	0.05	2.4	0.05
5	2.5	0.30	2.5	0.20	3.5	0.00	3.5	0.05	5.0	0.10	2.0	0.10	4.0	0.05	2.0	0.10	3.0	0.10	4.0	0.05	3.0	0.05
6	3.0	0.20	3.0	0.25	4.2	0.05	4.2	0.10	6.0	0.00	2.4	0.10	4.8	0.10	2.4	0.15	3.6	0.05	4.8	0.05	3.6	0.00
7	3.5	0.15	3.5	0.35	4.9	0.10	4.9	0.05	7.0	0.00	2.8	0.10	5.6	0.01	2.8	0.15	4.2	0.05	5.6	0.10	4.2	0.15
8	4.0	0.10	4.0	0.35	5.6	0.10	5.6	0.05	8.0	0.00	3.2	0.05	6.4	0.05	3.2	0.15	4.8	0.00	6.4	0.05	4.8	0.10
9	4.5	0.01	4.5	0.10	6.3	0.05	6.3	0.01	9.0	0.01	3.6	0.01	7.2	0.05	3.6	0.10	5.4	0.01	7.2	0.01	5.4	0.05
Right Bank	5.0	0.00	5.0	0.00	7.0	0.00	7.0	0.00	10.0	0.00	4.0	0.00	8.0	0.00	4.0	0.00	6.0	0.00	8.0	0.00	6.0	0.00
Feature Type	n	ool	n	ool	rif	fle	ru	ın	100	ool	ро	ol	riff	le.								
(riffle, run, or pool	рс	JUI	рc	JUI	111	110	111	ΠÜ	111	110	111	110	111	110	It	Ш	ρc	101	ρυ	UI	1111	IÜ.

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed:	Gilisa Gould	Date:	11.09.07	
		•		_

Data Sheet B-Site Characterization

				1						
Date & Time:	10.15.0	7 12:50pm		Site Location	on Descrip	tion (e.g. road	crossing):			
Personnel:	L. Brow	n & G. Gould		228th county rd						
Current Weatl	ner Cond	ditions: clear		Facility Nar	acility Name: Lawson Wastewater Lago					
Weather cond	litions fo	r the past 10 days:3	.09 inches	Permit Nun	nber:	MO0091031				
Drought condi	itions?: N	No drought ☑ ; Phas	se I □ ; Phase	II □ ; Phas	e III □ ; Pł	nase IV □ ; Ur	ıknown □			
Site Location	1:									
		(Universal Transver	se Mercator Pi	rojection, In	Meters					
Site 01	Easting	(UTM X):	Northing (UTN	И Y):		Horizontal Ac	curacy: Meters			
		0397930		4373593		15	ft			
Site 11	Easting	(UTM X):	Northing (UTN	И Y):		Horizontal Ac	curacy: Meters			
	_	0397959		4373770		24	-			
		0391333	<u> </u>	4010110		<u></u>	ıı			
Photos:	•	_		•		•				
Photo ID#	F	Photo Purpose	Photo ID#:	urpose	Photo ID#:	Photo Purpose				
84		downstream, T1	85	upstream,	Γ1	86	tire tracks, ATV			
Photo ID#	P	Photo Purpose	Photo ID#	Photo F	urpose	Photo ID#	Photo Purpose			
87	downst	ream, T11	88	upstream,	Γ11					
Photo ID#	Р	Photo Purpose	Photo ID#	Photo F	urpose	Photo ID#	Photo Purpose			
· <u></u> -										
Uses Observ	ed:									
☐ Swimming		☐ Skin diving	☐ SCUBA di	iving	☐ Tubing	<u> </u>	☐ Water Skiing			
☐ Wind surfi		☐ Kayaking	☐ Boating		□ Wadin	-	☐ Rafting			
☐ Hunting		☐ Trapping	☐ Fishing			of the above	☐ Other:			
Describe:			L 11019		E 110110	01 110 42010	Li Cuior.			

WBID#	377
Site #	3

Data Sheet B- Site Characterization (Continued)

Surrounding Condition	ons:					
☐ City/County parks	☐ playgrounds	☐ MDC cons	ervation lands	□ Urban areas	☐ Rural Re	esidential
☐ Campgrounds	☐ State parks	☐ National Fo	orests	☐ Nature trails	☐ Stairs/wa	alkways
☐ Boating accesses	☑ Fence	☐ No tresspa	ass sign	☐ Steep Slopes	☐ Other:	
Comments:						
none						!
						ĺ
						_
= 11						
Evidence of Human U		T 5 1/-1-#.		T	T-5	
☐ Roads	☐ Foot path/prints	☐ Dock/platfo		☐ Camping Sites		
☑ RV/ATV Tracks	☐ Fire pit/ring	☐ NPDES Dis	scharge	☐ Fishing Tackle	☐ Livestoc	k watering
comments/other:						!
none						ĺ
none						ĺ
						ĺ
Substrate:						
% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock	
	10	80			10	
Aquatic Vegatation:						
none						
Water Characteristics	e.					
Odor:	☐ Sewage	☐ Musky	☐ Chem	nical 🔽	Z None	☐ Other:
Color:	☑ Clear	□Green	☐ Gray		☐ Milky	☑Other:
00.0			,		<u> </u>	brown
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine :	sediments 🗹	☑ None	☐ Other:
Surface Deposit:	□ Oil	☐ Scum	☐ Foam		₫None	☐ Other:

WBID#_	377
Site #	3

	Data Sneet	B - Site Charac	terization (conti	nuea)	
Additional Stream M	orphology: (Record isolated	d nools or other feat	ures identified during	the survey that may suppor	t recreational uses)
Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
	access location (III)				
Commente: (DI	1 199	,			
Comments: (Please red	cord any additional comments h	ere.)			
none					
Please verify that yo complete.	u have completed all se	ections, checke	d all applicable	boxes, and that the f	orm is
Surveyor's Signature:	Gilisa Gould		_Date of Survey:	10.15.07	
Organization:	SES, Inc.		Position:	Field Team Leader	

Field Data Sheets for Recreational Use Stream Surveys Data Sheet C - Field Survey Results

																		Disso	lved Ox	ygen		
	Waterbo	ody ID:	377			Site #:	3									Date:	10.15.07	7		Time:	12:50pm	
	Estimate	ed Chann	nel Incisi	on:	2.0	(m) (hei	ght betw	een low l	bank wid	lth and w	rater)					•				•	_	·
	Dissolved Oxygen: 8.4 (mg/L) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)																					
	01	UTM X	:	0397930)	. 1	UTM Y:		4373593	3		+/-	4.5	(meters)		Di	ssolved	Oxygen:			(% sat)	
	11	UTM X		0397959)	. 1	UTM Y:		4373770)		+/-	7.3	(meters)			Specifi	ic Cond:			(uS/cm)	
		Stream			7		((meters)	L	ength of	Survey S	Segment:	150	((meters)			•				
	(To dete	ermne Le	ngth of I	Reach)					(2	0x avera	ge strear	n width)				Wa	ter Temp	oerature:		16.3	(°C)	
	Fiel	ld Staff:	Larissa	Brown	and	Gilisa G	ould															
										Trai	isect Ci	ross-Sec	ction									
	0)1	0)2	0	13	0	4	0	5	0	6	0	7	0	8	0	9	1	0	1:	1
Station	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.7	0.05	0.6	0.01	0.3	0.05	0.5	0.05	0.7	0.10	0.5	0.05	0.5	0.05	0.4	0.01	0.9	0.05	0.2	0.05	0.2	0.05
2	1.4	0.10	1.2	0.01	0.6	0.05	1.0	0.10	1.4	0.25	1.0	0.10	1.0	0.20	0.8	0.01	1.8	0.00	0.4	0.10	0.4	0.25
3	2.1	0.05	1.8	0.05	0.9	0.20	1.5	0.05	2.1	0.40	1.5	0.35	1.5	0.25	1.2	0.05	2.7	0.00	0.6	0.15	0.6	0.40
4	2.8	0.00	2.4	0.10	1.2	0.20	2.0	0.00	2.8	0.30	2.0	0.45	2.0	0.30	1.6	0.10	3.6	0.00	0.8	0.15	0.8	0.45
5	3.5	0.00	3.0	0.10	1.5	0.10	2.5	0.00	3.5	0.20	2.5	0.50	2.5	0.35	2.0	0.10	4.5	0.00	1.0	0.15	1.0	0.30
6	4.2	0.00	3.6	0.05	1.8	0.10	3.0	0.05	4.2	0.15	3.0	0.40	3.0	0.25	2.4	0.05	5.4	0.01	1.2	0.10	1.2	0.25
7	4.9	0.00	4.2	0.05	2.1	0.15	3.5	0.10	4.9	0.10	3.5	0.30	3.5	0.25	2.8	0.05	6.3	0.00	1.4	0.05	1.4	0.15
8	5.6	0.05	4.8	0.01	2.4	0.15	4.0	0.10	5.6	0.05	4.0	0.15	4.0	0.15	3.2	0.01	7.2	0.15	1.6	0.01	1.6	0.05
9	6.3	0.01	5.4	0.01	2.7	0.05	4.5	0.01	6.3	0.01	4.5	0.05	4.5	0.05	3.6	0.05	8.1	0.05	1.8	0.01	1.8	0.01
Right Bank	7.0	0.00	6.0	0.00	3.0	0.00	5.0	0.00	7.0	0.00	5.0	0.00	5.0	0.00	4.0	0.00	9.0	0.00	2.0	0.00	2.0	0.00
Feature Type								,								a.		,				
(riffle, run, or pool	pc	ool	pc	ool	pc	ool	po	ol	l pool		pc	ool	po	ol	rif	tie	pc	ool	po	ol	po	ol

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed:	Gilisa Gould	Date:	11.09.07	
		•		_

WBID#	377
Site #	4

Data Sheet B-Site Characterization

Date & Time:	10.15.0	7 12:10pm		Site Location	on Descrip	tion (e.g. road	crossing):
Personnel:	L. Brow	n & G. Gould		site near cr	226		
Current Weatl	ner Cond	ditions: clear		Facility Nar	me:	Lawson Was	tewater Lagoon
Weather cond	itions fo	r the past 10 days:3	.09 inches	Permit Nun	nber:	MO0091031	
Drought cond	tions?: N	No drought ☑ ; Pha	se I □ ; Phase	Ⅱ 🛭 ; Phas	e III □ ; Pł	nase IV □ ; Ur	nknown 🗆
Site Location							
		(Universal Transver	se Mercator P	rojection, In	Meters		
Site 01	Easting	(UTM X):	Northing (UTI	И Y):		Horizontal Ac	curacy: Meters
		0397600		4372644		19	ft
Site 11	Easting	(UTM X):	Northing (UTI	И Y):		Horizontal Ac	curacy: Meters
	_	0397381		4372802		25	•
		0397301		4012002		20	ıı
Photos:	T		1	1		1	T
Photo ID#	F	Photo Purpose	Photo ID#:	Photo F	Purpose	Photo ID#:	Photo Purpose
80		downstream, T1	81	upstream,	Т1	82	downstream, T11
Photo ID#	Р	hoto Purpose	Photo ID#	Photo F	urpose	Photo ID#	Photo Purpose
83	upstrea	ım, T11					
Photo ID#	Р	hoto Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Purpose
Uses Observ	ed:						
☐ Swimming		☐ Skin diving	☐ SCUBA d	iving	☐ Tubing	g	☐ Water Skiing
☐ Wind surfi	ng	☐ Kayaking	☐ Boating		□ Wadin	ıg	☐ Rafting
☐ Hunting		☐ Trapping	☐ Fishing		☑ None	of the above	☐ Other:
Describe:		11 5					1

WBID#	377
Site #	4

Data Sheet B- Site Characterization (Continued)

Surrounding Condition	ons:					
☐ City/County parks	☐ playgrounds	☐ MDC conser	vation lands	☐ Urban areas	☐ Rural Re	sidential
☐ Campgrounds	☐ State parks	□ National For	ests	□ Nature trails	☐ Stairs/wa	alkways
□ Boating accesses	☑ Fence	☐ No tresspass	s sign	☐ Steep Slopes	☐ Other:	
Comments:						
Evidence of Human L		□ Dook/plotform		Compine Site	o I 🗆 Bono ou	ingo
☐ Roads ☐ RV/ATV Tracks	☐ Foot path/prints ☐ Fire pit/ring	□ Dock/platforn□ NPDES Disc		☐ Camping Site ☐ Fishing Tackle		k watering
comments/other:	□ Fire pivring	I INPUES DISC	large	- rishing racki	e Livestoci	k watering
comments/otner:						
Hone						
Substrate:						
% Cobble	% Gravel	% Sand %	√ Silt	% Mud/Clay	% Bedrock	
	60	30		•	10	
Aquatic Vegatation:						
none						
Water Characteristic						
Odor:	☐ Sewage	☐ Musky	☐ Chem		☑ None	☐ Other:
Color:	☐ Clear	□Green	☐ Gray		☑ Milky	□Other:
Bottom Deposit:	□ Sludge	□ Solids			☑ None	☐ Other:
Surface Deposit:	□ Oil	☐ Scum	☐ Foam		☑None	☐ Other:

WBID#_	377
Site #	4

Data Sheet B - Site Characterization (continued)

Channel Feature	lorphology: (Record isolated Distance from	Width (m)	Length (m)	Median Depth (m)	Max Depth (m
	access location (m)	` ,		. , ,	, ,
mments: (Please re	cord any additional comments h	ere.)			
ie					
ease verify that yo	ou have completed all se	ections, checke	d all applicable	boxes, and that the fo	orm is
mplete.					
veyor's Signature:	Gilisa Gould		Date of Survey:	10.15.07	
Ommonimetica	SES, Inc.		Desiden	Field Team Leader	

Field Data Sheets for Recreational Use Stream Surveys Data Sheet C - Field Survey Results

																		Disso	lved Ox	ygen		
	Waterbo	ody ID:	377		·	Site #:	4									Date:	10.15.07	,		Time:	12:15pm	1
	Estimate	ed Chann	el Incisi	on:	3.0	(m) (hei	ght betw	een low l	bank wid	lth and w	rater)					•				•		
	GPS Lo	cation - I	Easting (UTM X)	, Northir	ng (UTM	Y), Hori	izontal A	ccuracy	Estimate	(EPE / I	PDOP / F	OM)			Dı	ssolved	Oxygen:		8.3	(mg/L)	
	01	UTM X	:	0397600)	1	UTM Y:		4372644	ļ.		+/-	5.7	(meters)		Di	ssolved	Oxygen:			(% sat)	
	11	UTM X		039738		. '	UTM Y:		43/2802	!		+/-	7.6	(meters)			Specifi	c Cond:			(μS/cm)	
		Stream			7			(meters)		_	-	Segment:	150	((meters)	33 7 -		•				
	(10 dete	ermne Le	ngth of F	(Reach)					(2	0x avera	ge strean	n widtn)				wa	ter Temp	erature:		18.3	(°C)	
	Fiel	ld Staff:	Larissa	Brown	and	Gilisa G	ould															
										Trar	isect Ci	ross-Sec	ction									
	0	1	0	2	0	3	0	4	0	5	0	6	0	7	0	8	0	9	1	0	1	1
Station	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.8	0.01	0.6	0.05	0.3	0.05	0.8	0.10	0.7	0.01	0.8	0.50	0.8	0.10	0.6	0.01	0.2	0.01	0.5	0.01	0.8	0.15
2	1.6	0.05	1.2	0.05	0.6	0.20	1.6	0.10	1.4	0.05	1.6	0.30	1.6	0.15	1.2	0.05	0.4	0.01	1.0	0.05	1.6	0.15
3	2.4	0.05	1.8	0.05	0.9	0.15	2.4	0.05	2.1	0.15	2.4	0.30	2.4	0.10	1.8	0.05	0.6	0.05	1.5	0.10	2.4	0.20
4	3.2	0.05	2.4	0.01	1.2	0.15	3.2	0.05	2.8	0.20	3.2	0.30	3.2	0.05	2.4	0.05	0.8	0.00	2.0	0.10	3.2	0.20
5	4.0	0.01	3.0	0.10	1.5	0.10	4.0	0.05	3.5	0.25	4.0	0.20	4.0	0.00	3.0	0.10	1.0	0.10	2.5	0.10	4.0	0.10
6	4.8	0.00	3.6	0.30	1.8	0.05	4.8	0.05	4.2	0.30	4.8	0.20	4.8	0.00	3.6	0.20	1.2	0.10	3.0	0.15	4.8	0.05
7	5.6	0.01	4.2	0.25	2.1	0.05	5.6	0.10	4.9	0.25	5.6	0.05	5.6	0.01	4.2	0.20	1.4	0.05	3.5	0.20	5.6	0.15
8	6.4	0.05	4.8	0.10	2.4	0.05	6.4	0.15	5.6	0.25	6.4	0.01	6.4	0.05	4.8	0.05	1.6	0.05	4.0	0.20	6.4	0.05
9	7.2	0.05	5.4	0.05	2.7	0.01	7.2	0.30	6.3	0.05	7.2	0.01	7.2	0.05	5.4	0.01	1.8	0.01	4.5	0.15	7.2	0.01
Right Bank	8.0	0.00	6.0	0.00	3.0	0.00	8.0	0.00	7.0	0.00	8.0	0.00	8.0	0.00	6.0	0.00	2.0	0.00	5.0	0.00	8.0	0.00
Feature Type	.,	20		ra .				,		1		1		1				or .		1		
(riffle, run, or pool	rii	fle	rıt	fle	po	ool	pc	100	po	100	po	ool	po	100	po	01	rif	He	po	100	po	01

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: Gilisa Gould Date: 11.09.07



Site# 1 Photo ID# 70, Downstream T1



Site# 1 Photo ID# 72, Downstream T11



Site# 1 Photo ID# 71, Upstream T1



Site# 1 Photo ID# 73, Upstream T11



Site# 2 Photo ID# 74, Downstream T1



Site# 2 Photo ID# 76, Downstream T11 / fence



Site# 2 Photo ID# 75, Upstream T1



Site# 2 Photo ID# 77, Upstream T11



Site# 2 Photo ID# 78, Under bridge art



Site# 3 Photo ID# 84, Downstream T1



Site# 2 Photo ID# 79, Trash under bridge



Site# 3 Photo ID# 85, Upstream T1



Site# 3 Photo ID# 86, Tire tracks



Site# 3 Photo ID# 88, Upstream T11



Site# 3 Photo ID# 87, Downstream T11



Site# 4 Photo ID# 80, Downstream T1



Site# 4 Photo ID# 81, Upstream T1



Site# 4 Photo ID# 83, Upstream T11



Site# 4 Photo ID# 82, Downstream T11